



United States  
Department of  
Agriculture

Forest  
Service

Nez Perce  
National  
Forest

Rt. 2, Box 475  
Grangeville, ID 83530-9699  
(208)983-1950  
TTY: (208)983-2280

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Dear Suction Dredger:

Enclosed is a copy of the 1996 monitoring report for recreational suction dredging on the Nez Perce National Forest. If you have any questions please call me at (208) 983-1950. I look forward to seeing you in 1997.

Sincerely,

Nancy J. Rusho  
Forest Geologist

enclosure



## 1996 RECREATIONAL DREDGING ON THE NEZ PERCE NATIONAL FOREST

The following is a report on the 1996 recreational suction dredging program on the Nez Perce National Forest. This is the second annual monitoring report.

### Background

In the past, the Forest Service accepted the Idaho Department of Water Resources (DWR) Recreational Dredging Permit (RDP) as a Notice of Intent (NOI) to operate on National Forest System lands. Due to increased concerns on effects of dredging to aquatic resources, the Forest Service felt it was necessary to monitor the recreational dredging operations. The DWR permit did not provide information on location of the dredging operation allowing us to adequately monitor dredging. Therefore, in 1995 the Nez Perce National Forest began to require that each recreational dredger file a NOI with the appropriate District Ranger so we could track the true number of dredgers operating on the Forest. Also, a seasonal employee was hired to inspect and monitor the recreational dredgers on the Forest.

The Nez Perce National Forest has several dredge operations that are permitted under the non-recreational dredging permit system with DWR. This system requires that the operator file a Joint Application for a Stream Alteration Permit with the DWR and the Corp of Engineers. Many of the operators that had a non-recreational dredging permits could have operated under the RDP. Those operations that could have fallen under the RDP system, were only required to file a NOI. Most non-recreational dredging operations that are outside the realm of the RDP are required to file a Plan of Operations. This report focuses on the Recreational Dredging operations, but the non-recreational operations are discussed briefly.

### 1996 Program

This year two individuals assisted with completing suction dredge inspections. In June, the Red River and Elk City Ranger Districts' Minerals Administrator moved out of the Region. Because we were short-handed, I assigned the suction dredge inspectors to help with other administration. Inspections in June showed that no dredges were being operated. A majority of the streams on the Forest open to dredging on July 1 and close on August 15. This corresponds well with when the major amount of dredging is occurring on the Forest.

Throughout the summer we had an estimated total of 40 dredges operating on the Forest. The following is a breakdown of the dredges, by nozzle size, that were operated:

1	8-inch
1	6-inch
17	5-inch
10	4-inch
4	3-inch
1	1 1/2-inch
6	unknown, but not larger than 5-inch

The dredge count is based largely on inspections, and to a lesser degree on submitted NOIs. A majority of the dredges were only operated from a couple of days to two weeks. Although most dredgers indicate they work 8 hour days, our inspections show that most work when the weather is warm, and late morning to early afternoon. There were significantly more dredges operated on the Forest in 1996, but inspections seemed to indicate that actual dredging time in the water was very similar to that in 1995. Early in the season the water was higher and cooler than last year, which may have hampered some dredgers from starting earlier.

The following is a breakdown of the dredging operations by drainage:

#### **Mule Creek**

Mule Creek was the location of claims that are available for the use of Gold Prospectors Association of America (GPAA) members. There were seven dredges that may have operated in Mule Creek, 1 3-inch and the rest are unknown, but probably in the 2-inch to 4-inch size class. In general, the GPAA members tend to only dredge a day or two and so it is easy to miss seeing them. There were also a dozen or so gold panners. Inspections did not show any problems.

#### **Newsome Creek**

There were potentially 7 dredges scheduled to operate in Newsome Creek, one never dredged. Of the six that did dredge, three dredges were 4" or smaller, and three were 5" dredges. The dredges were operated off and on during the season. Inspections did not show any problems. There were reports of dredging occurring in a closed area and of some sort of a highbanking operation on one of the tributaries. Evidence of both were seen via inspections, but the operator was not on hand at the time. These two problems will be followed up on in 1997.

#### **Crooked River**

Seven dredges operated in Crooked River off and on throughout the July 1 - August 15 season. Four dredges were 5-inch and three were 4-inch. One dredger closed a Forest Service campground by blocking off the entrance. This was resolved with no problems. In another instance a four wheeler was driven across the river leaving ruts in a marshy area alongside the river. The dredgers in Crooked River were the most dedicated as a whole. Turbidity samples taken were well below the allowable levels.

#### **Relief Creek**

One 4-inch dredge was operated for a few weeks. This dredge by far stirred up the most turbidity. At times there was a turbid flume for well over a mile. Turbidity samplings still show this to be below the allowable limits.

#### **Leggett Creek**

No dredgers were observed operating in Leggett Creek.

#### **Little Moose Creek**

One 4-inch 5 HP dredge was operated for about a week. No problems were noted.

#### **Red River**

One 8-inch dredge, five 5-inch dredges, one 4-inch dredges and one 3-inch dredge were operated during the dredging season. One 5-inch was operated off and on throughout the dredging season. The rest of the dredges were operated from a few days to two weeks. Turbidity samples were well below the limits.

#### **South Fork Clearwater River**

The South Fork is open year round and is the largest waterway that is dredged on the Forest. One 6-inch dredge, five 5-inch dredges, one 4-inch dredge and one 1 1/2-inch dredge operated during the season. Most of these dredges were only operated a few days to a couple of weeks. Inspections were not as regular after August 15 because both inspectors returned to school. Casual inspections were made. No serious problems were noted. Several people were concerned with the intensive dredging of a sand bar. The sand bar was located between the high water marks. In another area, dredgers camped in a wide area near a pack bridge. This created a safety problem for people with stock crossing the road and approaching the bridge. The animals would be forced to walk much closer to the busy highway prior to crossing the bridge. This problem will be corrected in 1997, if it occurs again.

#### **Florence Basin**

Florence Basin is the site of several GPAA claims. There were many panners that were in the area. It is believed that only two 3-inch dredges were operated in the Florence area during the summer season. These dredges were not observed operating.

#### **Summary**

In general the inspection reports did not indicate any severe problems at any of the suction dredging sites. Most sites showed some trampling of stream side vegetation where the operators accessed their dredges. Some sediment plumes were as extensive as being visible a mile downstream. Turbidity increased when dredge was being operated in a clay layer. Dredging activity seemed to be low due to the weather and high waters early on.

Because of shortages of minerals inspectors, the suction dredges weren't inspected as much as in 1995. It did not appear that this resulted in any problems, just less accurate data on the number of dredgers and the amount of time they spent dredging. This should be corrected by 1997.

#### **Monitoring**

We felt that we also needed to try to get a handle on quantifiable impacts of suction dredging. With that in mind, Nick Gerhardt, Forest Hydrologist, with input from fisheries biologists developed a monitoring plan. Suction dredging can have a variety of impacts to streams, affecting both the water column and stream substrate. For monitoring we decided to try to quantify the effects of dredging on these two components. Turbidity was the recommended parameter to measure water column effects and particle size distribution was recommended for stream substrate.

To measure turbidity, a special sampler is used to collect water samples above and below dredging operations. The Wolman Pebble Count method was used to measure particle size distribution.

### Monitoring Results

The pebble count data that was collected in both 1995 and 1996 is still waiting to be processed (the Fisheries Biologist originally assigned to this task transferred to Region 2). This data should be processed in the next couple of months. The turbidity measures were taken on the operations that were causing a lot of visible clouding of the water. The following lists the results of the turbidity measures that were taken:

#### TURBIDITY SAMPLES

8/8/96	Crooked River below dredge	1.5 NTUs
8/9/96	Crooked River above dredge	0.81 NTUs
8/9/96	Crooked River below dredge	2.2 NTUs
8/10/96	Red River above dredge	1.2 NTUs
8/10/96	Red River below dredge	3.4 NTUs
8/5/96	Relief Creek above dredge	0.66 NTUs
8/5/96	Relief Creek below dredge	7.1 NTUs
7/30/96	Red River above dredge	0.88 NTUs
7/30/96	Red River below dredge	1.00 NTUs
7/30/96	Red River above dredge	0.47 NTUs
7/30/96	Red River below dredge	1.6 NTUs
7/30/96	Red River below dredge	2.3 NTUs
7/30/96	Red River above dredge	0.74 NTUs
7/30/96	Red River below dredge	1.3 NTUs

The turbidity samples that were taken did not exceed State Water Quality Standards. The Idaho Water Quality Standards were amended in 1994 to incorporate turbidity criteria for streams with designated or existing cold water biota beneficial uses. The criteria read as follows:

Turbidity, below any applicable mixing zone set by the Department, shall not exceed background turbidity by more than 50 NTU instantaneously or more than 25 NTU for more the ten (10) consecutive days.

Turbidity measures are taken below and above the dredging activity. Those samples taken below the operation are taken below the mixing zone, not directly in the most turbid area.

### Conclusions

In general, a majority of the suction dredge operators were very cooperative and helpful. Very few problems were encountered directly related to the dredging activity. One dredge may have been operating in a closed area without an approved Plan of Operations. This area will be checked more closely in 1997. For 1997 we will continue the inspections, but try to concentrate on accurate counts and on processing the pebble count data.